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=> file caplus
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FILE COVERS 1907 - 2 May 2003  VOL 138 ISS 19
FILE LAST UPDATED: 1 May 2003  (20030501/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> s lithium bromide or magnesium bromide or calcium bromide
        257311 LITHIUM
           340 LITHIUMS
        257433 LITHIUM
                 (LITHIUM OR LITHIUMS)
        223788 BROMIDE
         26343 BROMIDES
        236352 BROMIDE
                 (BROMIDE OR BROMIDES)
          5285 LITHIUM BROMIDE
                 (LITHIUM(W)BROMIDE)
        365851 MAGNESIUM
            88 MAGNESIUMS
        365891 MAGNESIUM
                 (MAGNESIUM OR MAGNESIUMS)
        223788 BROMIDE
         26343 BROMIDES
        236352 BROMIDE
                 (BROMIDE OR BROMIDES)
          3530 MAGNESIUM BROMIDE
                 (MAGNESIUM(W)BROMIDE)
        635824 CALCIUM
            31 CALCIUMS
        635828 CALCIUM
```

10/086,064

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* * * * * * * * * *   Welcome to STN International   * * * * * * * * * *

 NEWS  1          Web Page URLs for STN Seminar Schedule - N. America
 NEWS  2  Apr 08  "Ask CAS" for self-help around the clock
 NEWS  3  Jun 03  New e-mail delivery for search results now available
 NEWS  4  Aug 08  PHARMAMarketLetter(PHARMAML) - new on STN
 NEWS  5  Aug 19  Aquatic Toxicity Information Retrieval (AQUIRE)
                  now available on STN
 NEWS  6  Aug 26  Sequence searching in REGISTRY enhanced
 NEWS  7  Sep 03  JAPIO has been reloaded and enhanced
 NEWS  8  Sep 16  Experimental properties added to the REGISTRY file
 NEWS  9  Sep 16  CA Section Thesaurus available in CAPLUS and CA
 NEWS 10  Oct 01  CASREACT Enriched with Reactions from 1907 to 1985
 NEWS 11  Oct 24  BEILSTEIN adds new search fields
 NEWS 12  Oct 24  Nutraceuticals International (NUTRACEUT) now available on STN
 NEWS 13  Nov 18  DKILIT has been renamed APOLLIT
 NEWS 14  Nov 25  More calculated properties added to REGISTRY
 NEWS 15  Dec 04  CSA files on STN
 NEWS 16  Dec 17  PCTFULL now covers WP/PCT Applications from 1978 to date
 NEWS 17  Dec 17  TOXCENTER enhanced with additional content
 NEWS 18  Dec 17  Adis Clinical Trials Insight now available on STN
 NEWS 19  Jan 29  Simultaneous left and right truncation added to COMPENDEX,
                  ENERGY, INSPEC
 NEWS 20  Feb 13  CANCERLIT is no longer being updated
 NEWS 21  Feb 24  METADEX enhancements
 NEWS 22  Feb 24  PCTGEN now available on STN
 NEWS 23  Feb 24  TEMA now available on STN
 NEWS 24  Feb 26  NTIS now allows simultaneous left and right truncation
 NEWS 25  Feb 26  PCTFULL now contains images
 NEWS 26  Mar 04  SDI PACKAGE for monthly delivery of multifile SDI results
 NEWS 27  Mar 19  APOLLIT offering free connect time in April 2003
 NEWS 28  Mar 20  EVENTLINE will be removed from STN
 NEWS 29  Mar 24  PATDPAFULL now available on STN
 NEWS 30  Mar 24  Additional information for trade-named substances without
                  structures available in REGISTRY
 NEWS 31  Apr 11  Display formats in DGENE enhanced
 NEWS 32  Apr 14  MEDLINE Reload
 NEWS 33  Apr 17  Polymer searching in REGISTRY enhanced
 NEWS 34  Apr 21  Indexing from 1947 to 1956 being added to records in CA/CAPLUS
 NEWS 35  Apr 21  New current-awareness alert (SDI) frequency in
                  WPIDS/WPINDEX/WPIX
 NEWS 36  Apr 28  RDISCLOSURE now available on STN

 NEWS EXPRESS  April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT
               MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP),
               AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
 NEWS HOURS    STN Operating Hours Plus Help Desk Availability
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 NEWS WWW      CAS World Wide Web Site (general information)

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```
                (CALCIUM OR CALCIUMS)
         223788 BROMIDE
          26343 BROMIDES
         236352 BROMIDE
                (BROMIDE OR BROMIDES)
           1186 CALCIUM BROMIDE
                (CALCIUM(W)BROMIDE)
L1         9510 LITHIUM BROMIDE OR MAGNESIUM BROMIDE OR CALCIUM BROMIDE

=> s l1 and (fuel or gasoline or gasolene or diesel or kerosine or kerosene)
         293175 FUEL
         138475 FUELS
         339197 FUEL
                (FUEL OR FUELS)
          60884 GASOLINE
           5121 GASOLINES
          61672 GASOLINE
                (GASOLINE OR GASOLINES)
            100 GASOLENE
          35948 DIESEL
            372 DIESELS
          36002 DIESEL
                (DIESEL OR DIESELS)
          18440 KEROSINE
            410 KEROSINES
          18520 KEROSINE
                (KEROSINE OR KEROSINES)
          10173 KEROSENE
            134 KEROSENES
          10240 KEROSENE
                (KEROSENE OR KEROSENES)
L2           76 L1 AND (FUEL OR GASOLINE OR GASOLENE OR DIESEL OR KEROSINE OR
                KEROSENE)

=> s anti-static or antistatic
         303459 ANTI
              8 ANTIS
         303466 ANTI
                (ANTI OR ANTIS)
         114436 STATIC
           1444 STATICS
         115626 STATIC
                (STATIC OR STATICS)
            236 ANTI-STATIC
                (ANTI(W)STATIC)
          20125 ANTISTATIC
            285 ANTISTATICS
          20191 ANTISTATIC
                (ANTISTATIC OR ANTISTATICS)
L3        20289 ANTI-STATIC OR ANTISTATIC

=> s l2 and l3
L4            1 L2 AND L3

=> d l4 all

L4   ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   2003:203001  CAPLUS
DN   138:223409
TI   Method for imparting anti-static characteristics to non-conductive fluids
IN   Flaynik, Donald G.; Colburn, Michael R.
```

```
PA    USA
SO    U.S. Pat. Appl. Publ., 8 pp.
      CODEN: USXXCO
DT    Patent
LA    English
IC    ICM  C09K003-00
      ICS  C10L001-12; C23F011-00
NCL   044457000
CC    47-7 (Apparatus and Plant Equipment)
      Section cross-reference(s): 51
FAN.CNT 1
      PATENT NO.       KIND  DATE           APPLICATION NO.   DATE
      ---------------  ----  --------       ---------------   --------
PI    US 2003046863     A1   20030313       US 2002-86064     20020227
PRAI  US 2001-318787P   P    20010912
```

AB   A method for imparting **anti-static** characteristics to **fuel** is disclosed. The method includes supplying a hydrocarbon **fuel** and mixing the **fuel** with an ion, contained in an inorg. compd., to reduce the elec. resistance of the **fuel**.

ST   **antistatic** hydrocarbon **fuel** metal ion addn; fluid **fuel** static charge removal

IT   **Diesel fuel**
      Jet aircraft **fuel**
         (imparting **anti-static** characteristics to non-conductive liq. hydrocarbon **fuels**)

IT   **Gasoline**
      RL: CST (Combinatorial study, unclassified); CMBI (Combinatorial study)
         (imparting **anti-static** characteristics to non-conductive liq. hydrocarbon **fuels**)

IT   **Fuels**
         (liq.; imparting **anti-static** characteristics to non-conductive liq. hydrocarbon **fuels**)

IT   Electrostatic charge
         (removing static charge in liq. hydrocarbon **fuels**)

IT   7550-35-8, **Lithium bromide** (LiBr)   7758-02-3, Potassium bromide, uses   7789-48-2, **Magnesium bromide** ($MgBr_2$)   14127-61-8, Calcium ion, uses   17341-24-1, uses   17341-25-2, Sodium ion, uses   18459-37-5, Cesium ion, uses   22537-20-8, Beryllium ion, uses   22537-22-0, Magnesium ion, uses   22537-39-9, Strontium ion, uses   22541-12-4, Barium ion, uses   24203-36-9, Potassium ion, uses
      RL: MOA (Modifier or additive use); USES (Uses)
         (additive for removing static charge in liq. hydrocarbon **fuels**
)

=> d l2 1-76 ti

L2   ANSWER 1 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI   Method for imparting anti-static characteristics to non-conductive fluids

L2   ANSWER 2 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI   Heat-activatable microporous membrane and its uses in batteries

L2   ANSWER 3 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI   Color flame-generating liquid **fuel**

L2   ANSWER 4 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI   High-molecular-weight amphiphilic surfactants as emulsifiers for water-in-oil emulsion drilling fluids fluid

L2   ANSWER 5 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI   Exergy analysis of heat pipe for waste heat **lithium-bromide**

refrigerator driven by exhaust gas of **diesel** engine

L2 ANSWER 6 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Absorption **lithium-bromide** heat transformers

L2 ANSWER 7 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Redox type **fuel** cell

L2 ANSWER 8 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Multiblock power plant with thermal preparation of solid **fuel**

L2 ANSWER 9 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Performance of heat pipe for waste heat **lithium bromide** refrigerator driven by exhaust gas of **diesel** engine

L2 ANSWER 10 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Thermally protective salt material for thermal spraying of electrode materials

L2 ANSWER 11 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Absorption refrigeration with **lithium bromide** using waste heat

L2 ANSWER 12 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Absorption **lithium-bromide** heat transformers of new generation

L2 ANSWER 13 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Carbonylation process for hydrocarbons

L2 ANSWER 14 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Research on hot-cold water unit with single-effect **lithium bromide** absorption for air-conditioning of automobile

L2 ANSWER 15 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Finite time analysis of a central heating system with LiBr-H2O absorption heat pump

L2 ANSWER 16 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Absorption chiller

L2 ANSWER 17 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Integration of absorption and compression cycles for engine-driven refrigeration systems

L2 ANSWER 18 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Economic analysis of two stage dual fluid absorption cycle for optimizing generator temperatures

L2 ANSWER 19 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Technical evaluation of adiabatic UT-3 thermochemical hydrogen production process for an industrial scale plant

L2 ANSWER 20 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Use of energy cascade in an integrated refrigeration cycle

L2 ANSWER 21 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Lithium isotope separation by solvent extraction using open chain crown ether PAIV as complexing agent

L2 ANSWER 22 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Salt effect on the isothermal vapor-liquid equilibrium of the MTBE + methanol system

L2 ANSWER 23 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Modern absorption technology for district cooling

L2 ANSWER 24 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Competitive Interactions and Glassy State Extension in Lithium Salt Solutions

L2 ANSWER 25 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Gas turbine total energy vapor compression desalination system

L2 ANSWER 26 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Catalyst for alkylation of isoalkanes useful in **gasoline** production

L2 ANSWER 27 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Manufacture of impact-resistant hollow polyamide-polyoxyalkylene moldings by the anionic polymerization

L2 ANSWER 28 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Manufacture of impact-resistant hollow polyamide-polyoxyalkylene moldings by the anionic polymerization

L2 ANSWER 29 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Method and device for generation of electrical energy by thermal-electrical converter

L2 ANSWER 30 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Solid-free wellbore fluid

L2 ANSWER 31 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI The engine exhaust gases as energy source of an air condensed mobile absorption machine

L2 ANSWER 32 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Compositions containing derivatives of succinic acylating agent or hydroxyaromatic compounds and methods of using them

L2 ANSWER 33 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Friction modifier for water-based well drilling fluids and methods of using the same

L2 ANSWER 34 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Determination of unsaturates in secondary petroleum refining products

L2 ANSWER 35 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI The effect of halides on emissions from circulating fluidized bed combustion of fossil **fuels**

L2 ANSWER 36 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI On-site **fuel** cell power plants with waste heat recovery means

L2 ANSWER 37 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Energy-conserving **lithium bromide** absorption refrigerating and heat-pump machines

L2 ANSWER 38 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Optimization of generator temperatures in the heat operated absorption cycle using four types of aqueous salt solutions

L2 ANSWER 39 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Rotary heat pump driven by natural gas

L2 ANSWER 40 OF 76 CAPLUS COPYRIGHT 2003 ACS

TI Mobile water-**lithium bromide** absorption machine using the engine exhaust gases as energy source

L2 ANSWER 41 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Method and combination for materials for releasing stuck drilling pipe in wells

L2 ANSWER 42 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Optimization of absorber temperature in LiBr-H2O heat pump using renewable sources of energy

L2 ANSWER 43 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Test results of pilot plant and application study of thermal storage systems based on chemical concentration difference energy

L2 ANSWER 44 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Compositions containing esters of carboxy-containing interpolymers and methods of using the same

L2 ANSWER 45 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Melting point and supercooling characteristics of molten salt

L2 ANSWER 46 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Optimum generator temperatures in four absorption cycles using different sources of energy

L2 ANSWER 47 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Metal parts or apparatus with remelted and alloyed surface for corrosion resistance

L2 ANSWER 48 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Liquid **fuels** for color flame formation

L2 ANSWER 49 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Performance-oriented packaging standards; changes to classification, hazard communication, packaging and handling requirements based on UN standards and agency initiative

L2 ANSWER 50 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Bonding agents for thermite compositions

L2 ANSWER 51 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Optimization of generator temperatures in two-stage dual-fluid absorption cycles operated by biogas

L2 ANSWER 52 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI A heat-recovery cooling system to conserve energy in gas-turbine power stations in the Arabian Gulf

L2 ANSWER 53 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Economics of a solar-assisted heating/cooling system for an aquatic center in a tropical environment

L2 ANSWER 54 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Economic biogas and cooling water rates in a **lithium bromide**-water absorption system

L2 ANSWER 55 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Optimal cooling and heating performance coefficients of four biogas-powered absorption systems

L2 ANSWER 56 OF 76 CAPLUS COPYRIGHT 2003 ACS

TI Economic analysis of biogas/solar operated **lithium bromide**-water absorption systems

L2 ANSWER 57 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Solvent stimulation of viscous petroleum via a horizontal wellbore

L2 ANSWER 58 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI A theoretical analysis of a solar-**fuel** assisted absorption power cycle (SFAPC)

L2 ANSWER 59 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Preparation of unsaturated amide pesticides

L2 ANSWER 60 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Economic analysis of biogas for optimum generator temperature of four vapor absorption systems

L2 ANSWER 61 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Preparation of ethanol

L2 ANSWER 62 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Preparation of acetic acid and propionic acid from synthesis gas

L2 ANSWER 63 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Economic evaluation of biogas for optimizing generator temperature in a vapor-absorption system

L2 ANSWER 64 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Separation of palladium and silver from waste solutions

L2 ANSWER 65 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Compositions and processes for using hydroxyethyl cellulose in heavy brines

L2 ANSWER 66 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI α-Phosphato amide compounds and lubricant and hydrocarbon **fuel** compositions containing them

L2 ANSWER 67 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Invert emulsions for well-drilling comprising a polydiorganosiloxane

L2 ANSWER 68 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI A solar operated water-**lithium bromide** absorption refrigeration machine used also as heat pump: technical and economic analysis

L2 ANSWER 69 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Multi-step chemical and radiation process for the production of gas

L2 ANSWER 70 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Inorganic lithium amine complexes

L2 ANSWER 71 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI MIUS technology evaluation. **Lithium bromide**-water absorption refrigeration

L2 ANSWER 72 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI **Gasoline** compositions containing n-alkyltrimethylleads

L2 ANSWER 73 OF 76 CAPLUS COPYRIGHT 2003 ACS
TI Illuminating gas flame as a source luminescence excitation

L2 ANSWER 74 OF 76 CAPLUS COPYRIGHT 2003 ACS

```
TI   Some regularities of the extraction of alkali metals

L2   ANSWER 75 OF 76  CAPLUS  COPYRIGHT 2003 ACS
TI   Complex hydrides

L2   ANSWER 76 OF 76  CAPLUS  COPYRIGHT 2003 ACS
TI   Low-temperature explosions of mixtures of potassium perchlorate with some
     combustible substances


=> file stnguide
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                    54.19      54.40

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                    -0.65      -0.65

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LAST RELOADED: Apr 25, 2003 (20030425/UP).

=> file caplus
COST IN U.S. DOLLARS                              SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.72      55.12

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)        SINCE FILE      TOTAL
                                                       ENTRY    SESSION
CA SUBSCRIBER PRICE                                     0.00      -0.65

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FILE COVERS 1907 - 2 May 2003  VOL 138 ISS 19
FILE LAST UPDATED: 1 May 2003  (20030501/ED)

  This file contains CAS Registry Numbers for easy and accurate
  substance identification.


=> d l2 3 5 7 8 17 29 30 33 35 39 41 48 50 70 72 73 75 76 all

L2   ANSWER 3 OF 76  CAPLUS  COPYRIGHT 2003 ACS
```

Full Text
AN 2002:870075 CAPLUS
DN 137:327258
TI Color flame-generating liquid **fuel**
IN Huang, He
PA Peop. Rep. China
SO Faming Zhuanli Shenqing Gongkai Shuomingshu, 8 pp.
CODEN: CNXXEV
DT Patent
LA Chinese
IC ICM C10L001-02
CC 51-12 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1325944	A	20011212	CN 2000-116237	20000530
PRAI	CN 2000-116237		20000530		

AB The title **fuel** for generation of desired color flames when it is burned is prepd. by dissolving alc.-sol. metal salt in alc. at ratio of 7-60:1000. The alc. can be ethanol or methanol. The product is low in cost.
ST liq **fuel** color flame generation alc metal salt
IT Coloring materials
Flame
(color flame-generating liq. **fuel**)
IT Alcohols, uses
Salts, uses
RL: NUU (Other use, unclassified); USES (Uses)
(color flame-generating liq. **fuel** contg.)
IT **Fuels**
(liq.; color flame-generating liq. **fuel**)
IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 1345-04-6, Antimony sulfide (Sb2S3) 3251-23-8 7447-39-4, Cupric chloride, uses 7447-41-8, Lithium chloride, uses 7550-35-8, **Lithium bromide** 7553-56-2, Iodine, uses 7631-99-4, Sodium nitrate, uses 7646-79-9, Cobaltous chloride, uses 7681-11-0, Potassium iodide, uses 7681-82-5, Sodium iodide, uses 7789-45-9, Cupric bromide 7790-69-4, Lithium nitrate 10124-37-5, Calcium nitrate 10361-37-2, Barium chloride, uses 14534-29-3, Copper borate
RL: NUU (Other use, unclassified); USES (Uses)
(color flame-generating liq. **fuel** contg.)

L2 ANSWER 5 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 2002:564459 CAPLUS
DN 137:281219
TI Exergy analysis of heat pipe for waste heat **lithium-bromide** refrigerator driven by exhaust gas of **diesel** engine
AU Tao, Yu-Ling; Jin, Su-Min
CS College of Mechanical and Power Engineering, Nanjing University of Technology, Nanjing, 210009, Peop. Rep. China
SO Nanjing Gongye Daxue Xuebao, Ziran Kexueban (2002), 24(3), 38-41
CODEN: NGDXAX; ISSN: 1671-7643
PB Nanjing Gongye Daxue Xuebao Bianjibu
DT Journal
LA Chinese
CC 48-5 (Unit Operations and Processes)
Section cross-reference(s): 52
AB At present, the industrial process releases a large mount of waste heat, causing loss of usable energy and environmental pollution. A novel absorption refrigeration cycle with **lithium bromide** water as working fluid pair is introduced. This refrigeration system utilizes heat pipe to

callback the waste heat. An exergy anal. is carried out on the result of actual measurement. The results indicate that the heat-pipe for waste-heat absorber of cycle callbacks the waste heat effectively and exergy efficiency of the whole system is improved.

ST exergy analysis heat pipe **lithium bromide** refrigeration

IT Refrigeration
(absorption; exergy anal. of heat pipe for waste heat **lithium -bromide** refrigerator driven by exhaust gas of **diesel** engine)

IT **Diesel** engines
Exergy
Exhaust gases (engine)
Heat pipes
Waste heat
(exergy anal. of heat pipe for waste heat **lithium-bromide** refrigerator driven by exhaust gas of **diesel** engine)

IT 7550-35-8, **Lithium bromide**
RL: NUU (Other use, unclassified); USES (Uses)
(exergy anal. of heat pipe for waste heat **lithium-bromide** refrigerator driven by exhaust gas of **diesel** engine)

L2 ANSWER 7 OF 76 CAPLUS COPYRIGHT 2003 ACS

Full Text

AN 2002:486443 CAPLUS
DN 137:49696
TI Redox type **fuel** cell
IN Suzuki, Takashi; Nagura, Hideaki; Harada, Yoshiro
PA F.D.K. Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 14 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01M008-18
ICS C01G005-02
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2002184446	A2	20020628	JP 2000-379244	20001213
PRAI	JP 2000-379244		20001213		

AB The **fuel** cell has a cathode contg. an active mass and supplied with an O contg. gas, where the active mass is reduced by the cell reaction and oxidized by O for continuous power generation, an anode contg. an active mass and supplied with a H contg. gas, where the active mass is oxidized by the cell reaction and reduced by H for continuous power generation, and an electrolyte between the electrodes; where the cathode active mass is a Br intercalating carbonaceous material, the anode active mass is AgBr, and the electrolyte is a Br- contg. acidic soln.

ST bromine silver bromide oxygen hydrogen **fuel** cell

IT **Fuel** cell electrolytes
(acidic electrolytes for **fuel** cell using oxygen and hydrogen redoxable bromine/silver bromide **fuel** cells)

IT **Fuel** cell anodes
(anodes contg. hydrogen redicible silver bromide active mass for **fuel** cells)

IT **Fuel** cell cathodes
(cathodes contg. oxygen oxidizable bromine intercalating carbonaceous active materials for **fuel** cells)

IT Carbon fibers, uses
Carbonaceous materials (technological products)

RL: DEV (Device component use); USES (Uses)
(cathodes contg. oxygen oxidizable bromine intercalating carbonaceous active materials for **fuel** cells)

IT **Fuel** cells
(oxygen and hydrogen redox-able acidic electrolyte **fuel** cell using bromine/carbonaceous cathodes and silver bromide anode)

IT 7550-35-8, **Lithium bromide** 7647-15-6, Sodium bromide, uses 7699-45-8, Zinc bromide 7758-02-3, Potassium bromide, uses 7789-41-5, **Calcium bromide** 7789-45-9, Cupric bromide 10035-10-6, Hydrobromic acid, uses 383429-65-0, Iron bromide
RL: DEV (Device component use); USES (Uses)
(acidic electrolytes for **fuel** cell using oxygen and hydrogen redoxable bromine/silver bromide **fuel** cells)

IT 1333-74-0, Hydrogen, uses
RL: DEV (Device component use); USES (Uses)
(anodes contg. hydrogen redicible silver bromide active mass for **fuel** cells)

IT 7785-23-1, Silver bromide
RL: DEV (Device component use); USES (Uses)
(anodes contg. hydrogen reducible silver bromide active mass for **fuel** cells)

IT 7726-95-6, Bromine, uses 7782-44-7, Oxygen, uses
RL: DEV (Device component use); USES (Uses)
(cathodes contg. oxygen oxidizable bromine intercalating carbonaceous active materials for **fuel** cells)

L2 ANSWER 8 OF 76 CAPLUS COPYRIGHT 2003 ACS

Full Text

AN 2002:198720 CAPLUS

DN 137:172109

TI Multiblock power plant with thermal preparation of solid **fuel**

AU Shchinnikov, P. A.

CS Novosib. Gos. Tekh. Univ., Novosibirsk, Russia

SO Izvestiya Vysshikh Uchebnykh Zavedenii, Problemy Energetiki (2001), (1-2), 128-132
CODEN: IVUZC6

PB Kazanskii Gosudarstvennyi Energeticheskii Universitet

DT Journal

LA Russian

CC 51-18 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 58

AB A multifunctional variant of a power plant with thermal prepn. of solid **fuel** with full utilization of ash was described. The plant includes a central heating block equipped with the technol. of preliminary thermal prepn. of coal in thermal cyclone precombustion chamber. A single pipe system with absorption **lithium bromide** thermal pump is used for heat delivery to customers. A system for sulfur removal is based on the Saaberg-Helter-Lurgi technol. with the prodn. of com. gypsum and removal of flue gases through a cooling tower. An ash utilization system uses a technol. of the prodn. of foundry sand with further manufg. of fine (including multihollow) construction materials like bricks, blocks, and other shaped products.

ST coal based power generation central heating construction material prodn

IT Construction materials
(blocks; multifunctional power unit with thermal prepn. of solid **fuel**)

IT Ashes (residues)
(coal, utilization of; multifunctional power unit with thermal prepn. of solid **fuel**)

IT Heating
(domestic, central; multifunctional power unit with thermal prepn. of solid **fuel**)

IT Power
(generation, coal-based; multifunctional power unit with thermal prepn. of solid **fuel**)
IT Bricks
Cement
Flue gas desulfurization
Molding sand
(multifunctional power unit with thermal prepn. of solid **fuel**
)
IT Construction materials
(shaped; multifunctional power unit with thermal prepn. of solid **fuel**)
IT 13397-24-5P, Gypsum, preparation
RL: IMF (Industrial manufacture); PREP (Preparation)
(multifunctional power unit with thermal prepn. of solid **fuel**
)

L2 ANSWER 17 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 2000:663312 CAPLUS
DN 133:224752
TI Integration of absorption and compression cycles for engine-driven refrigeration systems
AU Jiang, H. B.; Chen, G. M.; Wang, J. F.; Zhen, F.; Zhang, S. Z.
CS Refrigeration and Cryogenic Engineering Institute, Zhejiang University, Hangzhou, 310027, Peop. Rep. China
SO Cryogenics and Refrigeration, Proceedings of ICCR '98, Hangzhou, China, Apr.21-24, 1998 (1998), 202-205. Editor(s): Chen, Guobang. Publisher: International Academic Publishers, Beijing, Peop. Rep. China.
CODEN: 69AJZL
DT Conference
LA English
CC 47-4 (Apparatus and Plant Equipment)
Section cross-reference(s): 69
AB By using both the work and waste heat of the **diesel** engine, an integrated absorption-compression cycle is proposed and analyzed. The performance of this cycle is compared with those of direct-fired absorption cycle and conventional compression cycle. Thermodn. and numerical investigation is conducted with regard to its feasibility to enhance the efficiency and capacity for cooling applications. Operating parameters and the heat duties are also studied. The numerical study indicates that when all of the waste heat including exhaust heat and jacket water heat are used in addn. to the work output, a COP improvement of 54% and 28%, resp. over direct-fired **lithium-bromide** absorption system and conventional compression system with R22 as the working fluid can be accomplished.
ST engine driven refrigeration absorption compression cycle integration; work waste heat **diesel** engine refrigeration system cycle integration
IT **Diesel** engines
Refrigerating apparatus
Thermodynamic cycle
(integration of absorption and compression cycles for engine-driven refrigeration systems)
IT Waste heat
(integration of absorption and compression cycles using work and waste heat from **diesel** engine for engine-driven refrigeration systems)
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE
(1) Chen, J; Journal of Refrigeration (in chinese) 1984, V2, P18
(2) Howe, L; Int J Refrig 1989, V12, P21 CAPLUS
(3) Riffat, S; Applied Energy 1993, V46, P303 CAPLUS

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L2   ANSWER 29 OF 76  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   1998:65769  CAPLUS
DN   128:156638
TI   Method and device for generation of electrical energy by
     thermal-electrical converter
IN   Takata, Tomoaki; Tsutsumi, Kazuo; Tsutsumi, Atsushi
PA   Kawasaki Heavy Industries, Ltd., Japan; Tsutsumi, Atsushi
SO   Jpn. Kokai Tokkyo Koho, 6 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  F01K023-10
     ICS  C01B003-04; F01K025-00; F02C003-30; F02C006-00; F02C006-18;
          F22B001-18
CC   52-3 (Electrochemical, Radiational, and Thermal Energy Technology)
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.  DATE
     ---------------   ----  --------       ---------------  --------
PI   JP 10018810        A2   19980120       JP 1996-188721   19960628
     JP 3130799         B2   20010131
PRAI JP 1996-188721          19960628
AB   Combustion exhaust gas generated by combusting fuel in a combustor is
     introduced into a thermal energy-elec. energy converter to convert heat
     into electricity, exhaust gas from the thermal energy-elec. energy
     converter is introduced into a thermal energy-chem. energy converter where
     fuel gas is generated, and the fuel gas is then supplied into the
     above combustor.  The process can be applied to the process of catalytic
     decompn. of water in which the steam formed is used in the generation of
     electricity by feeding into a steam turbine and the hydrogen formed is
     used in the combustor.
ST   electricity generation combustion exhaust gas; water decompn catalyst
     electricity generation
IT   Combustion gases
     Energy converters
        (method and device for generation of elec. energy by thermal-elec.
        converter)
IT   Turbines
        (steam; method and device for generation of elec. energy by
        thermal-elec. converter)
IT   1309-37-1, Ferric oxide, uses   7789-41-5, Calcium
     bromide
     RL: CAT (Catalyst use); USES (Uses)
        (method and device for generation of elec. energy by thermal-elec.
        converter)
IT   7732-18-5, Water, processes
     RL: PEP (Physical, engineering or chemical process); PROC (Process)
        (method and device for generation of elec. energy by thermal-elec.
        converter from)

L2   ANSWER 30 OF 76  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   1998:62218  CAPLUS
DN   128:142984
TI   Solid-free wellbore fluid
IN   Van Slyke, Donald C.
PA   Union Oil Company of California, USA
SO   U.S., 11 pp., Cont.-in-part of U.S. Ser. No. 55,510, abandoned.
     CODEN: USXXAM
DT   Patent
LA   English
```

IC ICM C09K007-06
NCL 507137000
CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5710111	A	19980120	US 1994-251568	19940531
	US 5556832	A	19960917	US 1992-948509	19920921
	US 5696058	A	19971209	US 1995-440260	19950512
PRAI	US 1992-948509	A2	19920921		
	US 1993-55510	B2	19930430		

AB Solid-free, essentially all-oil and invert emulsion wellbore fluids are employed in well drilling, completion, and workover operations. Techniques for remediating dense arom. solvents wellbore fluids entail removal and/or dissoln. of particulate matter.

ST drilling fluid solid free

IT Petroleum products
(cycle oils; in solid-free wellbore fluid)

IT **Kerosene**
RL: TEM (Technical or engineered material use); USES (Uses)
(in solid-free wellbore fluid)

IT Drilling fluids
(solid-free wellbore fluid)

IT 84-66-2, Diethyl phthalate 84-74-2, Dibutyl phthalate 97-85-8, Isobutyl isobutyrate 103-09-3 111-15-9, 2-Ethoxyethyl acetate 112-15-2, 2-(2-Ethoxyethoxy)ethyl acetate 123-66-0, Ethyl caproate 124-17-4, 2-(2-Butoxyethoxy)ethyl acetate 126-73-8, Tributyl phosphate, uses 7646-85-7, Zinc chloride, uses 7699-45-8, Zinc bromide 7789-41-5, **Calcium bromide** 29063-28-3, Octanol
RL: TEM (Technical or engineered material use); USES (Uses)
(in solid-free wellbore fluid)

RE.CNT 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

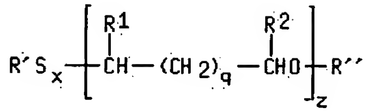
(1) Anon; EP 0247801 1987 CAPLUS
(2) Anon; Completion, Workover, and Packer Fluids 1976
(3) Backoff; US 2347982 1944
(4) Backoff; US 2347983 1944 CAPLUS
(5) Borchardt; US 4554081 1985 CAPLUS
(6) Bridges; US 4938288 1990
(7) Chenevert; US 3664426 1972
(8) Chenevert; US 3670816 1972
(9) Chenevert; US 3688851 1972 CAPLUS
(10) Chenevert; US 3702564 1972 CAPLUS
(11) Clark; US 2319660 1943 CAPLUS
(12) Comey; A Dictionary of Chemical Solubilites Inorganic, 2nd Edition 1921, P1119
(13) Cowan; US 4404107 1983 CAPLUS
(14) Cowan; US 4428843 1984 CAPLUS
(15) Dobson; US 4822500 1989 CAPLUS
(16) Doty; US 4728446 1988 CAPLUS
(17) Evans; J Am Chem Soc 1930, V52, P3523 CAPLUS
(18) Gogarty; US 3568772 1971 CAPLUS
(19) Hewgill; US 4787453 1988 CAPLUS
(20) Himes; US 4828726 1989 CAPLUS
(21) Himes; US 4961466 1990 CAPLUS
(22) Hoover; US 4330414 1982 CAPLUS
(23) House; US 4392964 1983 CAPLUS
(24) House; US 4427556 1984 CAPLUS
(25) House; US 4435564 1984 CAPLUS
(26) House; US 4439333 1984 CAPLUS
(27) House; US 4476032 1984 CAPLUS
(28) House; US 4582614 1986 CAPLUS

(29) House; US 4686051 1987 CAPLUS
(30) Jennings; US 4883124 1989 CAPLUS
(31) Lai; US 4828725 1989 CAPLUS
(32) Linke; Solubilities Inorganic and Metal-Organic Compounds, 4th Edition
1965, VII, P1647
(33) Ogilvy; US 4900456 1990 CAPLUS
(34) Pasztor; US 4465601 1984 CAPLUS
(35) Reeves; US 4630679 1986
(36) Romenesko; US 4381241 1983 CAPLUS
(37) Ross; US 3554288 1971 CAPLUS
(38) Rowley; J Am Chem Soc 1936, V58, P1337 CAPLUS
(39) Sekimoto; US 4614601 1986 CAPLUS
(40) Shin; US 4784778 1988 CAPLUS
(41) Smith; US 4946604 1990
(42) Son; US 4539122 1985 CAPLUS
(43) Stowe; US 4549608 1985 CAPLUS
(44) Stowe; US 4685519 1987 CAPLUS
(45) Sutton; US 4584327 1986 CAPLUS
(46) Teot; US 4725372 1988 CAPLUS
(47) Thomas; US 4423781 1984
(48) Tillis; US 4971709 1990 CAPLUS
(49) Walker; US 4444668 1984 CAPLUS
(50) Webb; US 3554289 1971 CAPLUS
(51) White; US 3406115 1968 CAPLUS

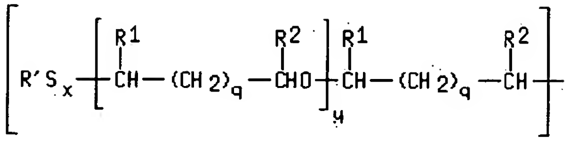
L2 ANSWER 33 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1997:6009 CAPLUS
DN 126:34147
TI Friction modifier for water-based well drilling fluids and methods of using the same
IN Malchow, George A., Jr.
PA Lubrizol Corp., USA
SO PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM C09K007-02
CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9634068	A1	19961031	WO 1996-US4008	19960325
	W: AU, BR, CA, MX, NO				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 5593954	A	19970114	US 1995-429436	19950426
	AU 9654294	A1	19961118	AU 1996-54294	19960325
PRAI	US 1995-429436		19950426		
	WO 1996-US4008		19960325		

OS MARPAT 126:34147
GI



I



II

AB A drilling fluid compn. comprising a mixt. of a brine (A) an emulsifier, and (B) an oil sol. friction modifier of formula (I), where X = 1 to 4, z = 1 to 6, Q = 0 to 2, R1 and R2 are independently H or an aliph. group contg. from 1 to ~16 carbon atoms, provided that the sum of R1 and R2 is between 0 and ~16 R' is an aliph. group contg. an av. of from ~8 to ~24 carbon atoms, and R'' is selected from the group consisting of H, an aliph. group contg. between 1 and an av. of ~18 carbons, and formula (II), where Q, X, z, R1 and R2, R' and R'' are defined as set forth above, and Y is 0 to 5, is disclosed. The compns. of the present invention have beneficial lubrication properties. These compns. are useful in drilling, working and completing well bore holes.

ST drilling fluid friction modifier

IT Petroleum products
RL: MOA (Modifier or additive use); USES (Uses)
(arom. oils; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT **Diesel fuel**
Drilling fluids
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT Fats and Glyceridic oils, uses
Fuel oil
Hydrocarbon oils
Kerosene
Lime (chemical)
Petroleum, uses
Sunflower oil
RL: MOA (Modifier or additive use); USES (Uses)
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT Clays, uses
RL: MOA (Modifier or additive use); USES (Uses)
(organophilic; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT Aromatic oils (hydrocarbons)
RL: MOA (Modifier or additive use); USES (Uses)
(petroleum; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT Fats and Glyceridic oils, uses
RL: MOA (Modifier or additive use); USES (Uses)
(vegetable; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT Hydrocarbon oils
RL: MOA (Modifier or additive use); USES (Uses)
(white oils; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

IT 64-17-5, Ethanol, reactions 108-01-0 108-30-5D, poly(isobutenyl) derivs. 32072-96-1, Hexadecenyl succinic anhydride
RL: RCT (Reactant); RACT (Reactant or reagent)

(emulsifier; friction modifier for oil-based (invert) well drilling fluids and methods of using the same)
IT 82412-32-6P
RL: IMF (Industrial manufacture); MOA (Modifier or additive use); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)
IT 1462-55-1P, Dodecyl-(2-hydroxyethyl) sulfide
RL: IMF (Industrial manufacture); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)
IT 1332-37-2, Iron oxide, uses 7646-85-7, Zinc chloride, uses 7699-45-8, Zinc bromide 7727-43-7, Barium sulfate 7789-41-5, **Calcium bromide** 10043-52-4, Calcium chloride, uses
RL: MOA (Modifier or additive use); USES (Uses)
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)
IT 60-24-2, 2-Mercaptoethanol 78-67-1, AIBN 1330-20-7, Xylene, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(friction modifier for oil-based (invert) well drilling fluids and methods of using the same)

L2 ANSWER 35 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1996:759785 CAPLUS
DN 126:50422
TI The effect of halides on emissions from circulating fluidized bed combustion of fossil **fuels**
AU Julien, S.; Brereton, C. M. H.; Lim, C. J.; Grace, J. R.; Anthony, E. J.
CS Dep. Chem. Eng., Univ. British Columbia, Vancouver, BC, V6T 1Z4, Can.
SO Fuel (1996), 75(14), 1655-1663
CODEN: FUELAC; ISSN: 0016-2361
PB Elsevier
DT Journal
LA English
CC 59-2 (Air Pollution and Industrial Hygiene)
Section cross-reference(s): 51
AB Combustion tests involved addn. of chlorides and bromides while burning Highvale coal were carried out in a pilot-scale (152 mm square x 7.3 m tall) circulating fluidized bed combustor (CFBC). The halogens were added in the form of hydrochloric acid (HCl) and **calcium bromide** ($CaBr_2 \cdot 1/2H_2O$) solns. (10 wt%). The thermodn. equil. compn. of CFBC products was calcd. using the ASPEN database package. The calcns. predict 12% conversion of HCl to $CaCl_2$ for an HCl feed rate of 9.78 kg h^{-1} and complete conversion of $CaBr_2$ to HBr in the vapor phase throughout the range of $CaBr_2$ soln. feed rate investigated. The exptl. results indicate that chloride and bromide addns. increase the CO and SO_2 concns. in the flue gases, with corresponding decreases in the NO_x level. The halides have no significant effect on N_2O emission. The CO level increased from 27 to 230 ppmv when the chloride concn. in the reactor was ~4200 ppmv (Cl/**fuel** = 4.58 wt%). The effect of bromide on CO emission was more dramatic, the CO emission jumping from 56 to 480 ppmv for lower concns. of bromide (20-400 ppmv). The expts. confirm previous work showing that halide-contg. species inhibit CO oxidn. through interaction with the hydrogen-oxygen radical pool. The decrease in NO concn. with chloride addn. can be explained by surface modification of CaO particles due to formation of a liq. calcium chloride phase favored by high HCl concns. near the feed point. The formation of the liq. calcium chloride phase has the potential to make the CaO surface unavailable, thereby reducing catalytic oxidn. of volatile nitrogen to NO.
ST coal fluidized bed combustion emission halide

IT Air pollution
(halide effect on emissions from circulating fluidized bed combustion of fossil **fuels**)
IT Halides
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); OCCU (Occurrence); PROC (Process)
(halide effect on emissions from circulating fluidized bed combustion of fossil **fuels**)
IT Combustion
(of coal; halide effect on emissions from circulating fluidized bed combustion of fossil **fuels**)
IT 630-08-0, Carbon monoxide, processes 7446-09-5, Sulfur dioxide, processes 10102-43-9, Nitric oxide, processes 11104-93-1, Nitrogen oxide (NOx), processes
RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); POL (Pollutant); FORM (Formation, nonpreparative); OCCU (Occurrence); PROC (Process)
(halide effect on emissions from circulating fluidized bed combustion of fossil **fuels**)
IT 7726-95-6, Bromine, processes 7782-50-5, Chlorine, processes 16887-00-6, Chloride, processes 24959-67-9, Bromide, processes
RL: PEP (Physical, engineering or chemical process); POL (Pollutant); OCCU (Occurrence); PROC (Process)
(halide effect on emissions from circulating fluidized bed combustion of fossil **fuels**)

L2 ANSWER 39 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1995:729739 CAPLUS
DN 123:148959
TI Rotary heat pump driven by natural gas
AU Riffat, S. B.; Warren, A. P.; Webb, R. A.
CS School of Architecture, University of Nottingham, Nottingham, NG7 2RD, UK
SO Heat Recovery Systems CHP (1995), 15(6), 545-54
CODEN: HRSCEQ; ISSN: 0890-4332
DT Journal
LA English
CC 52-3 (Electrochemical, Radiational, and Thermal Energy Technology)
AB This paper describes the development of an efficient cycle based upon the rotation of a hybrid absorption/recompression arrangement. This novel refrigeration cycle combines a mech. compressor and absorption system, together with process intensification which exploits radial flow driven by centrifugal force. The system is driven by a gas-engine, in order to utilize the waste heat produced by the engine. The developed cycle avoids the use of CFCs (chlorofluorocarbons). Performance calcns. are reported for a cycle using water and **lithium bromide** (H2O/LiBr) and water and sodium hydroxide-potassium hydroxide-cesium hydroxide (H2O/NaOH-KOH-CsOH) as the working fluid. For each of the combinations, the refrigerant is water. This paper also discusses various cycles using different configurations in order to assess their feasibility.
ST heat pump absorption compression natural gas
IT Natural gas
RL: TEM (Technical or engineered material use); USES (Uses)
(**fuel**; rotary heat pump driven by natural gas)
IT Heat pumps
(absorption-compression, rotary heat pump driven by natural gas)
IT 1310-58-3, Potassium hydroxide, uses 1310-73-2, Sodium hydroxide, uses 7550-35-8, **Lithium bromide** 7732-18-5, Water, uses 21351-79-1, Cesium hydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(working medium contg.; rotary heat pump driven by natural gas)

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L2   ANSWER 41 OF 76  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   1995:630236  CAPLUS
DN   123:118058
TI   Method and combination for materials for releasing stuck drilling pipe in
     wells
IN   Fisk, James V., Jr.; Kirsner, Jeffrey P.
PA   Baroid Technology, Inc., USA
SO   U.S., 9 pp.
     CODEN: USXXAM
DT   Patent
LA   English
IC   ICM  C09K007-02
     ICS  E21B031-03
NCL  166301000
CC   51-2 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1
     PATENT NO.       KIND  DATE          APPLICATION NO.  DATE
     ---------------  ----  --------      ---------------  --------
PI   US 5415230        A    19950516      US 1994-184427   19940121
     WO 9520094        A1   19950727      WO 1995-US757    19950120
         W:  AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP,
             KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD,
             SE, SK, UA, VN
         RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE,
             BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG
     CA 2181790        AA   19950727      CA 1995-2181790  19950120
     AU 9516046        A1   19950808      AU 1995-16046    19950120
     AU 685227         B2   19980115
     GB 2300871        A1   19961120      GB 1996-15377    19950120
     GB 2300871        B2   19970827
     BR 9506545        A    19970819      BR 1995-6545     19950120
     NO 9603048        A    19960823      NO 1996-3048     19960722
PRAI US 1994-184427         19940121
     WO 1995-US757          19950120
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AB   A method and combination of materials for freeing stuck drill pipe in a well consist of: (1) the spotting of a clear brine, preferably $CaCl_2$, $CaBr_2$, or $ZnBr_2$, or mixts., (2) allowing the clear brine to soak in place in the stuck region for .gtorsim.8 h, (3) pumping in a second spotting fluid selected from wetting agents, surfactants, lubricants, or mixts., and (4) allowing the second spotting fluid to soak in place for .gtorsim.8 h or until the stuck pipe has been freed. Components for the second spotting fluid include poly(α-olefins), glycerides, esters, fatty acids, citric acid, terpenes, **diesel fuel**, gilsonite, asphalt, and hydrocarbons oils.


```
ST   releasing unsticking petroleum drill pipe; tubing drill petroleum well
     unsticking; stuck drill pipe petroleum well release; brine stuck petroleum
     drill pipe release
IT   Drilling fluids and muds
        (spotting fluid combinations for releasing stuck drilling pipe in
        wells)
IT   Fuels, diesel
        (spotting fluids contg.; spotting fluid combinations for releasing
        stuck drilling pipe in wells)
IT   Asphalt
     Esters, uses
     Fatty acids, uses
     Gilsonite
     Glycerides, uses
     Hydrocarbon oils
     Terpenes and Terpenoids, uses
     RL: NUU (Other use, unclassified); USES (Uses)
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```
          (spotting fluids contg.; spotting fluid combinations for releasing
          stuck drilling pipe in wells)
IT     Pipes and Tubes
          (drilling, spotting fluid combinations for releasing stuck drilling
          pipe in wells)
IT     Alkenes, uses
       RL: NUU (Other use, unclassified); USES (Uses)
          (α-, polymers, spotting fluids contg.; spotting fluid
          combinations for releasing stuck drilling pipe in wells)
IT     7699-45-8, Zinc bromide   7789-41-5, Calcium bromide
       10043-52-4, Calcium chloride, uses
       RL: NUU (Other use, unclassified); USES (Uses)
          (clear brine contg.; spotting fluid combinations for releasing stuck
          drilling pipe in wells)
IT     77-92-9, Citric acid, uses
       RL: NUU (Other use, unclassified); USES (Uses)
          (spotting fluids contg.; spotting fluid combinations for releasing
          stuck drilling pipe in wells)

L2   ANSWER 48 OF 76  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   1992:595010  CAPLUS
DN   117:195010
TI   Liquid fuels for color flame formation
IN   Wada, Minoru; Ogata, Tadashi; Maezawa, Osamu; Inoue, Taichiro
PA   Gakushu Kenkyusha K. K., Japan
SO   Jpn. Kokai Tokkyo Koho, 3 pp.
     CODEN: JKXXAF
DT   Patent
LA   Japanese
IC   ICM  C10L001-12
     ICS  C10L001-18; C10L001-30
CC   51-9 (Fossil Fuels, Derivatives, and Related Products)
FAN.CNT 1
     PATENT NO.       KIND  DATE          APPLICATION NO.  DATE
     ---------------  ----  --------      ---------------  --------
PI   JP 04065488       A2   19920302      JP 1990-177132   19900704
PRAI JP 1990-177132         19900704
AB   C1-4 alc. is blended with borate ester ≤ 30, optionally LiBr,
     and/or Li acetyl acetate ≤ 5, and Cs2CO3 ≤ 5 wt.% to give a
     liq. fuel for color flame formation.  Thus, EtOH was blended with 20
     wt.% tri-Et borate to give a liq. fuel for green flame formation.
ST   alc fuel color flame formation; triethyl borate ethanol fuel green
IT   Alcohols, uses
     RL: USES (Uses)
        (C1-4, liq. fuel, blends with borate esters, for color flame
        formation)
IT   Fuels
        (liq., C1-4 alc., blends with borate esters, for color flame formation)
IT   150-46-9, Triethyl borate   534-17-8, Cesium carbonate (Cs2CO3)
     7550-35-8, Lithium bromide   18115-70-3
     RL: USES (Uses)
        (blends with C1-4 alc., liq. fuel contg., for color flame
        formation)
IT   64-17-5, Ethanol, uses
     RL: USES (Uses)
        (liq. fuel, blends with borate esters, for color flame
        formation)

L2   ANSWER 50 OF 76  CAPLUS  COPYRIGHT 2003 ACS
Full Text
AN   1991:539184  CAPLUS
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DN 115:139184
TI Bonding agents for thermite compositions
IN Covino, Josephine
PA United States Dept. of the Navy, USA
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
IC ICM C06B033-00
NCL 149037000
CC 50-1 (Propellants and Explosives)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5035756	A	19910730	US 1989-296162	19890110
PRAI	US 1989-296162		19890110		

AB A mixt. for use in melting and venting ordnance case sidewalls before the motor propellant grain autoignites in response to a **fuel** fire comprises Al having a particle size ~3 µm 3.5-4.5, Al having a particle size ~60 µm 19.0-22.0, Fe_2O_3 having a particle size <1 µm 69.0-71.0, and binder having a particle size ~5 µm 5.0-8.0 wt.%. The bonding agent is selected from S, S compds., KBr, NaBr, and $CaBr_2$.
ST thermite compn aluminum; ferric oxide thermite compn binder; sulfur binder thermite compn; potassium bromide binder thermite compn; sodium bromide binder thermite compn; **calcium bromide** binder thermite compn
IT Propellants
(melting of case for, thermite compn. for, binder in)
IT 7647-15-6, Sodium bromide, uses and miscellaneous 7704-34-9, Sulfur, uses and miscellaneous 7758-02-3, Potassium bromide, uses and miscellaneous 7789-41-5, **Calcium bromide**
RL: USES (Uses)
(binders, in thermite compn., for melting propellant container)
IT 1309-37-1, Ferric oxide, uses and miscellaneous 7429-90-5, Aluminum, uses and miscellaneous
RL: USES (Uses)
(thermite compn. contg., binder for, for melting propellant container)

L2 ANSWER 70 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1976:7177 CAPLUS
DN 84:7177
TI Inorganic lithium amine complexes
IN Langer, Arthur W., Jr.; Whitney, Thomas A.
PA Exxon Research and Engineering Co., USA
SO U. S. Reissue, 14 pp. Reissue of U.S. 3,734,963.
CODEN: UUXXA2
DT Patent
LA English
IC C07C
NCL 260563000R
CC 49-7 (Industrial Inorganic Chemicals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 28456		19750701	US 1969-808328	19690318

AB Complexed inorg. Li salts are prepd. by mixing an inorg. Li salt such as a Li halide with a monomeric or polymeric org. complexing agent which contains at least 1 N atom and at least 1 other atom which is N, O, P, or S. The complexing agent may be nonchelating (e.g. triethylenediamine) or chelating in nature. The chelating agents (e.g. triamines such as pentamethyldiethylenetriamine) are preferred. The resultant complex is useful for various processes such as sepns., catalytic reactions,

substitution reactions, electrochem. reactions, etc. and as oil and **fuel** additives.
ST lithium salt amine compd
IT Reducing agents
(lithium aluminum hydride-amine compds. as)
IT Aziridine, 1-methyl-, homopolymer, lithium complexes
RL: PREP (Preparation)
(prepn. of)
IT 9003-53-6
RL: USES (Uses)
(contg. **lithium bromide-**
pentamethyldiethylenetriamine compd.)
IT 52324-08-0P 52324-09-1P 52324-33-1P 52324-36-4P 52495-20-2P
52495-21-3P 52614-75-2P 57532-90-8P 57532-92-0P 57532-93-1P
57532-94-2P 57532-95-3P 57532-97-5P 57556-95-3P 57556-96-4P
57603-72-2P 57603-75-5P 57603-76-6P 57603-77-7P 57603-78-8P
57603-79-9P 57603-80-2P 57603-81-3P 57607-67-7P 57673-20-8P
57673-21-9P 57673-22-0P 57673-23-1P 57673-24-2P 57673-25-3P
57673-26-4P 57813-76-0P 57813-78-2P 57813-79-3P 57813-80-6P
57813-81-7P 57813-83-9P 57813-84-0P
RL: PREP (Preparation)
(prepn. of)
IT 25712-33-8P
RL: PREP (Preparation)
(prepn. of, lithium aluminum hydride-pentamethyldiethylenetriamine compd. in)
IT 10138-59-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(redn. of, by lithium aluminum hydride-pentamethyldiethylenetriamine compd.)

L2 ANSWER 72 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1968:51781 CAPLUS
DN 68:51781
TI **Gasoline** compositions containing n-alkyltrimethylleads
IN Barusch, Maurice R.; Richardson, Wallace Lloyd; Kautsky, George J.
PA Chevron Research Co.
SO U.S., 2 pp.
CODEN: USXXAM
DT Patent
LA English
NCL 044069000
CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3342571		19670919	US	19640917

AB A **gasoline** additive contg. n-alkyltrimethyllead with C3-8 in the alkyl group is described. Thus, the Pb compd. is prepd. by mixing 1 mole of n-amyl **magnesium bromide** Grignard in 1 l. Et2O with 0.465 mole Me3PbCl, stirring, and heating under reflux for 2 hrs. The mixt. is allowed to stand overnight. Satd. NH4Cl soln. (300 ml.) is then added. The ether layer is sepd., water washed, and dried over Na2SO4. The ether is distd. off and the remaining liquid product is fractionated at 4 mm. The n-amyltrimethyllead b. 63°; the yield is 73% of theory based on Me3PbCl. The addn. of 2.6 ml. of n-PrMe3Pb to a **fuel** contg. paraffins 41, olefins 16, and aromatics 43% by vol. improved the octane no. 0.2.
ST **GASOLINE** ALKYLTRIMETHYLLEAD; OCTANE NO ADDITIVE; ALKYLTRIMETHYLLEAD **GASOLINE**; LEAD ADDITIVE **GASOLINE**
IT Octane number
(improvers for, pentyltrimethylplumbane as)

IT **Gasoline** additives
(octane no. improvers, pentyltrimethylplumbane as)
IT Plumbane, alkyltrimethyll derivs.
RL: USES (Uses)
(as **gasoline** octane no. improver)
IT 19040-54-1
RL: USES (Uses)
(as **gasoline** octane no. improver)

Full Text
AN 1966:486897 CAPLUS
DN 65:86897
OREF 65:16271c-d
TI Illuminating gas flame as a source luminescence excitation
AU Brik, O. G.
SO Izv. Tomskogo Politekhn. Inst. (1965), 138, 265-71
From: Ref. Zh., Fiz., D. 1966, Abstr. No. 3D407.
DT Journal
LA Russian
CC 10 (Spectra and Some Other Optical Properties)
AB The luminescence due to radicals was studied in different zones of the flame of illuminating gas. The effect of impurities (I_2, N_2, CO_2, O_2, KCl, NaCl) on luminescence was also studied. The most active with respect to excitation of luminescence was the surface zone of the flame; it contained the greatest no. of free atoms and radicals. The observed quenching of catalytically active luminophors by impurities confirmed the radical-recombination mechanism of luminescence. Radicals (free atoms) of H were chiefly responsible for the luminescence of phosphors in the flame of an illuminating gas. 23 references.
IT Gas, **fuel**
(flames of, luminescence of radicals in, impurity and radical effects on, luminescence excitation sources and)
IT Luminescence
(recombination, in **fuel** gas flames, effect of impurities and radicals on, excitation sources and)
IT Cesium chloride, phosphors
Lithium bromide, phosphors
Lithium fluoride, phosphors
Potassium bromide, phosphors
Potassium chloride, phosphors
Rubidium chloride, phosphors
Sodium chloride, phosphors
Sodium fluoride, phosphors
Sodium iodide, phosphors (includes scintillators)
(luminescence and spectrum of Group III A- and Group IV A-contg.)
IT Free radical
(luminescence of, in **fuel** gas flames, impurity effects on, luminescence excitation sources and)
IT Potassium iodide, phosphors (scintillators)
(luminescesce and spectrum of Group III A- and Group IV A-contg.)
IT Cesium iodide, pentaiodide
(phosphors (includes scintillators), luminescence and spectra of Group IIl A- and Group IV A-contg.)
IT 1333-74-0, Hydrogen
(formation of thermal, in HCl gas decompn. by γ-rays in presence of Br, Cl or SF_6, luminescence of phosphors in **fuel** gas flame in presence of)
IT 7447-40-7, Potassium chloride 7647-14-5, Sodium chloride
(luminescence in **fuel** gas flames in presence of radicals of, luminescence excitation sources and)
IT 7727-37-9, Nitrogen

(luminescence of phosphors in **fuel**-gas flames in presence of
radicals of, luminescence excitation sources and)

IT 7782-44-7, Oxygen
(phosphor luminescence in **fuel** gas flames in presence of
radicals of, luminescence excitation sources and)

IT 7647-15-6, Sodium bromide
(phosphors contg. Ag, luminescence and spectrum of Group III A- and
Group IV A-contg.)

IT 7439-92-1, Lead 7440-55-3, Gallium 7440-56-4, Germanium 7440-74-6,
Indium
(phosphors contg., luminescence and spectrum of)

IT 7789-23-3, Potassium fluoride, KF
(phosphors from In-contg., luminescence and spectrum of group III A-
and Group IV A-contg.)

IT 7787-69-1, Cesium bromide
(phosphors(includes scintillators), luminescence and spectra of Group
III A- and Group IV A-contg.)

IT 13494-80-9, Tellurium
(phosphors, luminescence and spectra of)

IT 7440-31-5, Tin
(phosphors, luminescence and spectrum of)

IT 7447-41-8, Lithium chloride 10377-51-2, Lithium iodide
(phosphors, luminescence and spectrum of Group III A- and Group IV
A-contg.)

IT 7553-56-2, Iodine
(radicals of, luminescence of phosphors in **fuel** gas flames in
prescence of, exitation sources and)

IT 124-38-9, Carbon dioxide
(radicals of, luminescence of phosphors in **fuel** gas flames in
presence of luminescence excitation sources and)

L2 ANSWER 75 OF 76 CAPLUS COPYRIGHT 2003 ACS

Full Text

AN 1961:114323 CAPLUS
DN 55:114323
OREF 55:21504a-c
TI Complex hydrides
IN Wibert, Egon; Neumeier, Ulrich
PA Metallgesellschaft Akt.-Ges.
SO Addn. to Ger. 1,066,553
DT Patent
LA Unavailable
NCL 12I
CC 18 (Inorganic Industrial Chemicals)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 1080527		19600428	DE	
	GB 863491			GB	

AB Compds. of the type aM(M'H4)n + bM''H3, as described in the main patent,
can also be manufd. by use (as a reactant with Al(M'H4)), instead of M'H3,
of a simple saltlike hydride of a Group IA or IIA element or its dihydride
with a Group III element. For example Al(BH4)3 gives with LiH,
LiAlH4.3BH3, with Li borohydride, however, LiAlH4.4BH3. In the same
manner, Al(BH4)3 combines with LiBr to give Li(AlH3Br).3BH3, i.e.
Al(BH4).3LiBr. The Al(BH4)3, being volatile and liquid, is absorbed by
the other reactant. Thus, no solvent is necessary, in contrast to the
main patent. Complex formation diminishes the vapor pressure and thereby
facilitates the handling. Al(BH4)3 can be obtained from the complex
compd. by heating. It can be used for redn. purposes and for rocket
compns.

IT Reducing agents

(aluminum borohydride compd. with LiBr for)
IT Hydrides
(complex, for redn. and rocket **fuels**)
IT **Fuels**
(rocket, Al(BH4)3.LiBr for)
IT Aluminum borohydride, Al(BH4)3, compd. with LiBr
Lithium bromide, compd. with Al(BH4)3
IT Aluminum lithium borohydride bromide, LiBrAl(BH4)3
Lithium aluminum borohydride bromide, Al(BH4)3.LiBr
(manuf. of)

L2 ANSWER 76 OF 76 CAPLUS COPYRIGHT 2003 ACS
Full Text
AN 1959:20108 CAPLUS
DN 53:20108
OREF 53:3693h-i,3694h-i,3695a
TI Low-temperature explosions of mixtures of potassium perchlorate with some combustible substances
AU Grodzinski, J.
CS Israeli Military Inds., Tel-Aviv
SO J. Appl. Chem. (London) (1958), 8, 523-8
DT Journal
LA Unavailable
CC 24 (Explosives and Explosions)
AB Mixts. of KClO4 and combustible substances were placed in glass tubes, sealed, and inserted in holes in a heated metal block. Different samples of the same mixt. were subjected to successively higher temps., in 5° steps, until a temp. was reached at which the mixt. exploded. The lowest temp. of the block, at which the sample exploded after perhaps several min. in the block, is called the explosion temp. The time from insertion in the block to explosion is called the time lag. Combustible substances, their explosion temps., and time lags in min. are, resp.: ethylene glycol, 240°, 56; cotton linters; 245°, 5; starch, 265°, 4; furfural, 270°, 70; unsatd. polyester resin, 290°, 32; resorcinol, 305°, 8; asphalt, 320°, 75, BzOH, 335°, 38; satd. polyester resin, 340°, 10; dibutyl phthalate, 340°, 18; polyethylene, 440°, 15; paraffin oil, 440°, 56; C black, 440°, 3; graphite, dried 24 hrs. in vacuum desiccator, 305°, 2; graphite, dried for 24 hrs. and heated 2 hrs. at 105°, >450°, -; active C, dried for 24 hrs. in vacuum desiccator, 315°, 3; and active C, dried for 24 hrs. and heated 2 hrs. at 105°, >450°, -. Explosion temps. were lower than ignition temps. of the same mixts. and decreased slightly as the mass of the mixt. was increased. Explosion temps. were only slightly dependent upon the KClO4/**fuel** ratio. During the induction period, the mixts rapidly attained and remained at the temp. of the block. However, the temp. of mixts. at explosion temp. increased 8-25° just before exploding. The time lag decreased (1) when 1% of KCl, LiCl, or LiBr was added to a mixt. (explosion temp. remained the same); (2) as the ratio, mass of mixt./vol. of sealed tube, was increased; (3) if sealed mixts. were preheated for 2-8 hrs. at a temp. below their explosion temp. G. proposes that in the primary nonexplosive reaction steps some intermediate products, possibly free radicals, are formed, and at some crit. temp. and pressure an explosive chain reaction is started. For KClO4-ethylene glycol mixts. heated above the explosion temp., the log of time-lag increased linearly with the reciprocal of the abs. temp. at which the explosion occurred.
IT Asphalt
Linters
Paraffin oils
(explosion temp. and time lag of mixt. with KClO4)
IT Combustibles

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     Polyesters
        (explosion temps. and time lags of mixts. with KClO4)
IT   Explosions
        (of potassium perchlorate mixts. with combustibles at low temps.)
IT   7440-44-0, Carbon
        (active and black, mixts. with KClO4, explosion temps. and time lags
        of)
IT   84-74-2, Phthalic acid, dibutyl ester
        (explosion temp. and time lag of KClO4 contg.)
IT   65-85-0, Benzoic acid   98-01-1, 2-Furaldehyde   107-21-1, Ethylene glycol
     108-46-3, Resorcinol   9002-88-4, Ethylene polymer   9005-25-8, Starch
        (explosion temp. and time lag of mixt. with KClO4)
IT   7778-74-7, Potassium perchlorate
        (explosion temps. and time lags of mixts. with combustibles)
IT   7550-35-8, Lithium bromide
        (explosion time lag decrease for KClO4-combustible mixt. by)
IT   7447-40-7, Potassium chloride
        (explosion time lag decrease in KClO3-combustible mixt. by)
IT   7447-41-8, Lithium chloride
        (explosion time lag decrease in KClO4 combustible mixt. by)
IT   7782-42-5, Graphite
        (mixts. with KClO4, explosion temps. and time lags of)


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FULL ESTIMATED COST                                       1.20    106.52

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